Day 1: Session 1

Exploring the Roles and Challenges of Women in Science, Engineering and Technology

by Ir. Raftah bt. Mahfar

Highlights of Session 1:
• **Creating Leaders – Issues for Women in Science, Engineering and Technology**
• **Success Story of a Muslim Woman Engineer: My Story in Lines**
• **Unleash the Project Manager in You**

SUB-COMMITTEE ON WOMEN ENGINEERS

THE morning session of Day 1 WiSET 2012 conference consisted of lectures from three prominent women speakers from Australia, Kuwait and Malaysia. The morning session lecture started with the invited guest speaker, Dr Marlene Kanga, with her lecture entitled, 'Creating Leaders – Issues for Women in Science, Engineering and Technology'. A Chemical Engineer by profession, Dr Marlene Kanga is also the National Deputy President of the Institution of Engineers, Australia (Engineers Australia), Former Chairperson of the National Committee for Women in Engineering, Engineers Australia, the Executive Board member of the International Network for Women Engineers and Scientists (INWES) and represents Engineers Australia at the World Federation of Engineering Organisations (WFEO).

Dr Marlene believes that women engineers, scientists and technologists currently represent a small proportion of the workforce in many countries, including Australia. Therefore, ensuring more women in joining the profession and developing their careers to achieve leadership positions is vital from a social equity viewpoint. The growing shortage of manpower with technical skills around the world makes encouraging more girls to study science and engineering, who would eventually pursuing careers in these fields, a good economic and business sense. This is vital to make the best use of a country's human resources to achieve the competitive advantage needed for successful economic development.

Dr Marlene further elaborated on the 'Women's Empowerment Principles – Equality Means Business' (Figure 1), which offers a practical guidance to the business and private sectors on how to empower women in the workplace, marketplace and community. The declaration of Women's Empowerment Principles in March 2011 is a partnership initiative of UNIFEM, which is a part of UN Women and UN Global Compact (UNGC) in collaboration of celebrating the 100 years of international women day. The declaration serves to inform the business entities, government and institutions on the required steps to be taken to encourage
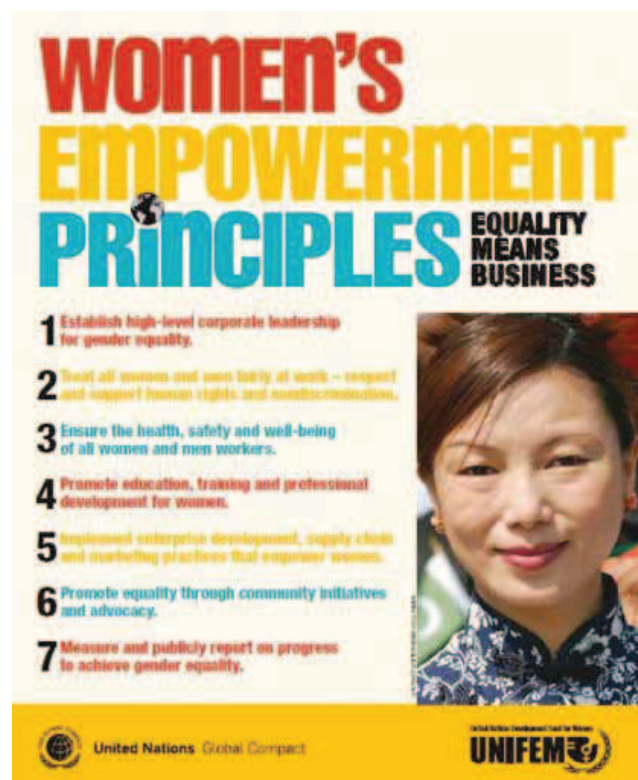
Figure 1: Women's Empowerment Principles – Equality Means Business

women's empowerment and equality. With these principles, she suggests that governments, corporations or institutions should first set a high level objective with specific date to achieve. In view of Malaysian government policy to achieve 30% of women in board room, she proposed that the target should be set at different management levels to enable the monitoring of its progress. She also recommended that all women and men be treated equally in work, and women should be given an equal opportunity in getting the job or promotion as well as being paid equally as men.

She believes that every woman who succeeds shows the way for others and every woman is the role model of the younger ones who follow her footsteps and her decisions can change the trend of the next generation.

Dr Marlene also stated that in Australia, more than 50% of women leave engineering profession within 10 years after graduation. A study carry out in year 2007, shows that 60% Australian women feel that managing work-life balance is the first or second most important issue in their lives. The study also indicates that women found that senior position is not visible or opened to them and they often have to struggle to climb the corporate ladder. Very few women in higher management positions in the engineering had led to the lack of role models and mentors for the younger women. Women do not know how to negotiate the corporate rule which is generally male-dominated, where major decisions are made in places where women are less likely to be around such as pub and the likes, which often results in lower promotion rates for women.

Government of Queensland, Australia has proposed a programme, 'Smart Women Smart State Programme' in year 2005. The programme has four goals, namely the first is to raise the profile awareness of women to opportunity in engineering, science and technology by providing scholarships and award to high achievers. Secondly, the programme establishes partnership between government, industry and community to encourage more women to be aspired of pursuing profession in engineering, science and technology. As this would lead to the establishing of pathway in education and training by using role model, and providing award and support as well as the profile of the women who have achieved high position in engineering, science and technology. Finally, monitoring of such progress is to be made by women. By last year (2011), the percentage of women entering engineering in Queensland has increased to 19% as compared to the national average of 14 – 15%.

ACHIEVEMENT OF WOMEN ENGINEERS IN ENGINEERS AUSTRALIA (2007 – 2012)

- First women National President in year 2008 – Julia Hammer and 2nd women National President in coming year 2013 – Dr Marlene Kanga
- 2007 President's Award won by a women – Dr Marlene Kanga
- 4 No of women chaired the Engineering Collage board and 3 No women hold Division President at state division.

The second lecture of Day 1 morning session entitled, 'Success Story of a Muslim Woman Engineer: My Story in Lines' was delivered by Ms. Bashayer Al-Awwad. Ms. Bashayer Al-Awwad is a Computer Engineer, graduated from the Kuwait University. She is currently in the Central Agency for Information Technology, Office of Technical Cooperation and International Relations, and manages the National Project of E-learning Awareness in Kuwait and the E-learning Awareness, Media, and Educational Campaign. Presently, she is the Chairman of WFEO Women in Engineering (Kuwait) and Vice President of WFEO.

Ms. Bashayer has been observing how her society deals with both males and females, and recognises that it has been a male-dominated society in every aspect in conformance with customs and traditions. Ms. Bashayer believes that this situation must be changed. With this aim in mind, she decided she wants to be an Engineer instead of a doctor because she believes that a doctor will only heal people but an Engineer will heel a country. She had also shared her experience as a Muslim woman in her country during the lecture.

Subsequently, the third lecture of the Day 1 morning session entitled, 'Unleash the Project Manager in You' was delivered by Prof. Sr. Dr Wan Maimun Wan Abdullah. Prof. Sr. Dr Wan Maimun has obtained her degree in B.Sc. Quantity Surveying (UTM), MBA (Aston University, UK) and PhD (University of Malaya). She is currently the Director of Khalid Ahmad Architects, Associates of AMD Associates and Board of Directors of Ahmad Zaki Sdn Bhd. She was the Former President of RISM, being the first lady president of the Institution. She is also a Board member of Chairman of the Accreditation Council and Chairman of Education Council of the Board of Quantity Surveyors Malaysia.

Prof. Sr. Dr Wan Maimun believes that every woman is a project manager, consciously or unconsciously. She also stated that the knowledge and skills of a project manager such as in communication, time management, budget, human relation, planning, scheduling, do not require the skills beyond the comprehension of any woman. Prof. Sr. Dr Wan Maimun further stated that a woman given the basic roles as caregiver, mother and wife, has an advantage and is in a better position to understand and appreciate project management and better execute the role of as a project manager.

(From left to right) Ms. Bashayer Al-Awwad, Prof. Sr. Dr Wan Maimun bt. Wan Abdullah, Ir. Raftah bt. Mahfar and Dr Marlene Kanga

The session ended with an overwhelming response of questions from the floor, pursuing further deliberation on each of the topics presented and capturing lessons learnt and experience shared that could be replicated for the benefits of all. ∎